



JOB DESCRIPTION

Title: **GENERATION/SUBSTATION
SUPERVISOR**

Department: Power

Class Code: 3410

FLSA Status: Non-Exempt

Effective Date: April 5, 2007 (Rev. 07/2008)

Grade Number: 27

GENERAL PURPOSE

Under broad supervision from the Engineer Manager, performs work in the operation, construction, and maintenance of the electrical substations, generation plants and other power Department facilities associated with the transmission, distribution, protection and control of electricity.

EXAMPLE OF DUTIES

- *-- Supervises the Generation/Substation Technicians; hires, trains, evaluates, in the area of responsibility (Generation, Substation, Relaying). Recommends disciplinary action when necessary.
- *-- Submits O&M and Capital budgets for approval. Maintains approved O&M and Capital budgets for their area of responsibility (Generation, Substation, Relaying).
- *-- Schedules maintenance, installation, and rebuilds for their area of responsibility (Generation, Substation, Relaying).
- *-- Obtains, evaluates, and awards bids for contractor and professional consulting services to accomplish maintenance, installation, and rebuilds for their area of responsibility (Generation, Substation, Relaying).
- *-- Prepares and submits all required state and federal reports for their area of responsibility (Generation, Substation, Relaying).
- *-- Performs troubleshooter responsibilities for generation plants, substations, SCADA, and relaying on a rotating basis.
- *-- Assume the responsibilities of other Generation Substation Supervisors in the areas of their responsibility, in their absences.

- *-- Approve switching orders as verified by the Senior Central Control Operator as to sequence and load carrying capability.
- *-- Perform other job function associated with the specific supervisor functions (Generation, Substation, Relaying) as stated in attached duties and responsibilities
- Performs related duties as required.

MINIMUM QUALIFICATIONS

Education and Experience

- Candidate must have an a Associates Degree in electronics plus a minimum of four (4) years as a generation/substation technician, to include at least one year in each of the following areas: gas turbine generation, hydro generation, substation maintenance, relaying and SCADA, or any equivalent combination of education and experience.

Special Requirements

- Must possess a valid Utah Commercial Driver's License.
- Must be willing to respond to emergency call out.

Necessary Knowledge, Skills and Abilities

- Thorough knowledge of "State of the Art" solid state electronics.
- Considerable knowledge of power plants and power substations; considerable knowledge of natural gas mechanics; considerable knowledge of electrical systems; considerable knowledge of power generation; considerable knowledge of power transmission and distribution. Thorough knowledge of proper safety techniques and procedures.
- Working knowledge of gas turbine operations. Ability to trouble shoot and correct minor problems with gas turbines and gas compressor plant.
- Working knowledge of hydro generation operation. Ability to trouble shoot and correct minor problems with hydro generators and diversion facilities.
- Working knowledge of relaying to understand the zones of protection and function of each type of relay. Ability to determine cause of relay operations, clearing of faults and re-energizing of station after fault condition.
- Ability to interpret schematic drawings and blueprints.

- Ability to create effective working relationships with employees and other departments; ability to work with the public; ability to communicate both verbally and in writing; ability to supervise employees and manage effectively during extremely stressful power system emergency situations.

TOOLS & EQUIPMENT USED

- Motorized equipment including pickup trucks, bucket trucks, and scissor lift equipment. Personal computer including word processing, spreadsheet and specialized software including thermal camera reporting. Hand tools and other mechanic tools.

PHYSICAL DEMANDS

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

- While performing the duties of this job, the employee is frequently required to sit; walk, talk or hear; use hands to finger, handle, feel or operate objects, tools, or controls; and reach with hands and arms.
- The employee must frequently lift and/or move up to 50 pounds and occasionally lift and/or move up to 100 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception, and the ability to adjust focus. Must be able to meet DOT hearing standard requirements.

WORK ENVIRONMENT

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

- While performing the duties of this job, the employee regularly works in outside weather conditions. The employee occasionally works near moving mechanical parts in high, precarious places and is occasionally exposed to wet and/or humid conditions, ambient air, temperature extremes, fumes or airborne particles, traffic, toxic or caustic chemicals, risk of electrical shock, and vibration.
- The noise level in the work environment is usually moderate, but occasionally high.

DEPT/DIVISION APPROVED BY: _____ DATE: _____

EMPLOYEE'S SIGNATURE: _____ DATE: _____

H. R. DEPT. APPROVED BY: _____ DATE: _____

*Essential functions of the job.

SUPPLEMENTAL
JOB RESPONSIBILITIES

Generation/Substation Supervisor (Generation)

- *-- Perform all duties as defined in basic job description Generation/Substation Supervisor.
- *-- Ensure that the operation of the Hydro plant, diversion facility, and penstock are in accordance with the FERC regulations. Files all reports as necessary to FERC in a timely manner.
- *-- Solicit bid, evaluate, and award bid for engineering services and construction services as necessary to accomplish inspections and repairs to hydro generation plant, diversion, and penstock.
- *-- Ensure that the operation of the gas turbine plant and Continuous Emission Monitoring (CEM's) is in accordance with UDAQ requirements. Files all routine reports as required and files deviation reports as they occur to UDAQ and EPA.
- *-- Solicit bid, evaluate, and award bid for engineering services and construction and repair service as necessary to accomplish testing, inspections and repairs to gas turbine generation plant, CEM's, gas compression plant, black start generator, and other auxiliary equipment associated with the gas turbine plant.
- *-- Makes certain of the successful operation and maintenance of emergency generators and peripheral and control equipment. Recommends and performs approved operational and maintenance procedures for the hydro electric plant peripheral and control equipment; recommends and performs approved operational and maintenance procedures for gas turbine generation station peripheral and control equipment.

SUPPLEMENTAL
JOB RESPONSIBILITIES

Generation/Substation Supervisor (Relaying)

- *-- Performs all duties as defined in basic job description Generation/Substation Supervisor.
- *-- Develop relay protection schemes for transmission systems utilizing zone relaying, differential relaying and directional relaying.
- *-- Develop relay protection schemes for substation utilizing bus differential relaying, transformer differential relaying and overcurrent relaying.
- *-- Programs all electronic relays for tripping requirements and logic for failure to trip requirements.
- *-- Develop protection schematics for installation of relays in substation control rooms. Change drawings as changes and modifications are made to the relaying requirements.
- *-- Programs SCADA (Supervisory Control And Data Acquisition) remote to communicate with protective relaying.
- *-- Programs PLC (Programable Logic Controllers) for automated hydro generation. Programming to protect plant, diversion, penstock while maintaining water flow to downstream.
- *-- Establish guidelines for testing of electronic relays.
- *-- Responsible for and sets criteria for radio operation of switched capacitor banks, load management and signaling systems.

SUPPLEMENTAL
JOB RESPONSIBILITIES

Generation/Substation Supervisor (Substations)

- *-- Performs all duties as defined in basic job description Generation/Substation Supervisor.
- *-- Reviews substation equipment manual and establishes inspection schedules to ensure that proper maintenance is accomplished in accordance with manufacturers guidelines to maintain system reliability.
- *-- Schedules routine maintenance on substation equipment. Coordinates with Central Control for planned outages on equipment in substations.
- *-- Solicits, evaluates, and awards bid for testing and maintenance of equipment beyond the capabilities of the department.
- *-- Oversee the rebuilds and/or installation of new devices and electrical bus in substations. Solicits, evaluates, and awards bid and obtains signed contracts with contractors for the installation of foundations and equipment. Read drawings to ensure that these foundations and equipment are installed per the design engineer requirements.
- *-- Installs relaying, SCADA remote, and control cable in substations and reads electrical drawings for the proper connections. Test electronic relays. Make changes to relay drawings and panels.
- *-- Schedules substation battery inspections and testing and records observations and makes necessary repairs and corrections.